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PATENT ABSTRACTS OF JAPAN(21) Application number: **06107083**(51) Intl. Cl.: **C03C 11/00 C04B 14/16**(22) Application date: **20.05.94**

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publication: **05.12.95**(84) Designated contracting
states:(71) Applicant: **AGENCY OF IND SCIENCE &
TECHNOL
KARUSHIDE:KK**(72) Inventor: **KIMURA KUNIO
ISHIBASHI OSAMU
MATSUDA KENICHIRO
KIMOTO JUNICHI
OKADA HIROMI**

(74) Representative:

**(54) PRODUCTION OF
HOLLOW GLASS
MICROSPHERE**

(57) Abstract:

PURPOSE: To efficiently obtain a high-strength hollow microsphere excellent in whiteness degree by sedimenting and separating a powdery or a granular substance of a volcanic glassy deposit in a liquid medium, collecting a fraction having a prescribed particle size, baking and expanding the collected fraction.

CONSTITUTION: This method for producing a hollow glass microsphere is to charge a powdery or a granular substance of a volcanic glassy deposit [e.g. SHIRASU (pumiceous sand), obsidian, perlite, pitchstone, rhyolite, KAISEKI (a kind of welded pyroclastic rock, especially a welded pyroclastic flow deposit present in calderas on Mount ASO, etc., in KYUSHU District, Japan),

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FUKUSHIMA HAKUDO (a clay produced in FUKUSHIMA Prefecture, Japan) or MATSUMAE HAKUDO (a clay produced in MATSUMAE District in HOKKAIDO, Japan)] into an aqueous solution containing an alkali metallic salt of an inorganic acid selected from silicic acid or phosphoric acid or a condensed acid thereof (e.g. water glass, sodium hexametaphosphate or sodium pyrophosphate) at 0.05-0.5wt.% concentration, sediment and separate the powdery or granular substance, separate and collect a fraction having 5-10 μ m particle diameter, then add a 0.3-3N aqueous solution of hydrochloric acid in a volume of 1-1.5ml/g to the fraction, hydrothermally treat the resultant mixture at 150-200°C temperature under 0.5-1.5MPa steam pressure for at least 8hr, subsequently bake and expand the hydrothermally treated mixture at 900-1100°C temperature for 1-60sec. The resultant hollow microsphere is recovered from the baked product by fractionation using a difference in specific gravity.

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Title: JP7315869A2: PRODUCTION OF HOLLOW GLASS MICROSPHERE

Derwent Title: Mfr. of fine hollow glass spherical filler for light wt. composite - from aq. dispersion of volcanic glass deposit in aq. soln. contg. water glass, sodium hexa:meta:phosphate or sodium pyrophosphate [[Derwent Record](#)]

Country: JP Japan
Kind: A (See also: [JP2534831B2](#))

Inventor: KIMURA KUNIO;
 ISHIBASHI OSAMU;
 MATSUDA KENICHIRO;
 KIMOTO JUNICHI;
 OKADA HIROMI;

Assignee: AGENCY OF IND SCIENCE & TECHNOL
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Application Number: JP1994000107083

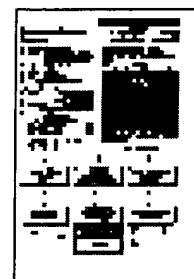
IPC Code: [C03C 11/00](#); [C04B 14/16](#);

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Priority Number: 1994-05-20 JP1994000107083

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